a trench that extends into the surface of the semiconductor substrate and into the intrinsic collector region and is self-aligned to an opening in said electrically insulating layer;

a base electrode of second conductivity type that extends in said trench and into the lateral recess within said electrically insulating layer;

a base region of second conductivity type that is self-aligned to a portion of said base electrode extending into the lateral recess and forms a P-N rectifying junction with said intrinsic collector region; and

an emitter region of first conductivity type that forms a P-N rectifying junction with said base region.

28. (New) A bipolar junction transistor, comprising the steps of:

a semiconductor substrate having an intrinsic collector region of first conductivity type therein that extends to a surface thereof;

an electrically insulating layer on the surface of a semiconductor substrate, said electrically insulating layer having an opening therein and a lateral recess extending from the opening;

a trench that extends into the surface semiconductor substrate and the intrinsic collector region and is self-aligned to the opening in said electrically insulating layer;

a polysilicon base electrode of second conductivity type in the lateral recess and in the trench;

an extrinsic base region of second conductivity type that extends into the intrinsic collector and is self-aligned to a portion of the polysilicon base electrode that extends into the lateral recess; and

an emitter region of first conductivity type that extends in the intrinsic collector region.